

Patent

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In Re Application of:

Jianbo Lu

Serial No. 10/708,673

Group Art Unit: 3683

Filed: 03/18/2004

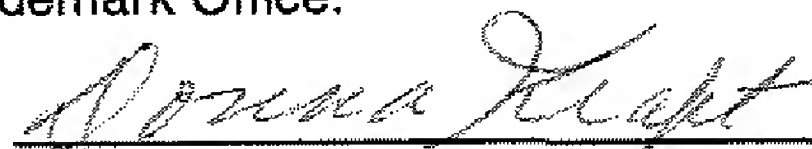
Examiner: Burch, Melody M.

For: METHOD OF CONTROLLING AN AUTOMOTIVE VEHICLE

Attorney Docket No. 81095825 (FGT 1907 PA)

CERTIFICATE OF MAILING/TRANSMISSION

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Signature

Date: 9-6-2006

Donna Kraft

RESPONSE TO NOTICE OF NON-COMPLIANT APPEAL BRIEF
AND CORRECTED APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

This corrected Appeal Brief is submitted in response to the Notice of Non-Complaint Appeal Brief dated August 8, 2006.

I. Real Party in Interest

The real party in interest in this matter is Ford Global Technologies, LLC, which is a wholly owned subsidiary of Ford Motor Company both in Dearborn, Michigan (hereinafter "Ford").

II. Related Appeals and Interferences

There are no other known appeals or interferences which will directly affect or be directly affected by or have bearing on the Board's decision in the pending appeal.

III. Status of the Claims

Claims 1-6, 9-15 and 17-43 stand rejected in the Final Office Action. Claims 7-8 and 16 have been cancelled. The rejection of Claims 1-6, 9-15, and 17-43 is being appealed.

IV. Status of Amendments

Amendments were filed after the final rejection but not entered.

V. Summary of Claimed Subject Matter

Independent Claim 1 is best understood with reference to Figures 4, 19, and 20, and further with reference to Appellants' specification at paragraph 120, at lines 1-9, as well as at paragraph 124 at lines 1-3, and at paragraph 125 at lines 1-2, and finally, at paragraph 128 at lines 1-8. Claim 1 sets forth a method for controlling an automotive vehicle and trailer in which the presence of a trailer is determined and brake-steer is applied to the vehicle in response to the presence of the trailer by applying at least one brake at one of the vehicle's wheels. This reduces the turning radius of the vehicle and trailer.

Independent Claim 17 is best understood with reference to Figures 4, 19, and 20, and further with reference to Appellants' specification at paragraph 120, at lines 1-9, as well as at paragraph 124 at lines 1-3, and at paragraph 125 at lines 1-2, and finally, at paragraph 128 at lines 1-8. Claim 17 sets forth a method for controlling an automotive vehicle and trailer in which the presence of a trailer is determined and brake-steer is applied to the vehicle and to the trailer in response to the presence of the trailer. This reduces the turning radius of the vehicle and trailer.

Independent Claim 31 is best understood with reference to Figures 4, 19, and 20, and further with reference to Appellants' specification at paragraph 76 and lines 1-5, at paragraph 82 at lines 6-12, at paragraph 120, at lines 1-9, as well as at paragraph 124 at lines 1-3, and at paragraph 125 at lines 1-2, and finally, at paragraph 128 at lines 1-8. Claim 31 builds upon the theme of Claim 17 by adding the limitation that a brake controller, which may be controller 134 or controller 170, or both, operates the vehicle and trailer brakes to brake-steer the combination to a smaller turning radius. This is done when a trailer is detected.

VI. Grounds of Rejection to be Reviewed on Appeal

The following issues are presented in this appeal:

1. Are Claims 1, 31, 36, and 37 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of U.S. Patent 6,842,683 to Kim?
2. Is Claim 2 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view Kim further in view of EP-0253964 (EP '964)?
3. Are Claims 3 and 5 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and EP '964, and further in view of U.S. Patent 6,112,845 to Oyama?
4. Is Claim 4 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and EP '964, and further in view of U.S. Patent 4,372,407 to McColl?
5. Is Claim 6 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and EP '964, and further in view of JP2003-191774 (US 2005/0027402) to Koibuchi?
6. Are Claims 9, 17, 29, and 30 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and further in view of U.S. Patent 5,708,435 to Wood?
7. *Are Claims 10 and 32 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and further in view of U.S. Patent 6,804,597 to Posselius?*
8. Are Claims 11, 12, 33, and 34 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and further in view of U.S. Patent 5,455,557 to Noll?

9. Are Claims 13, 15 and 35 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and further in view of JP 2002-12172 (JP '172)?

10. Is Claim 14 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and further in view of U.S. Patent 6,804,597 to Traechtler?

11. Is Claim 18 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and U.S. Patent 5,709,435 to Wood, and further in view of EP-0253964 (EP '964)?

12. Are Claims 19 and 21 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and Wood, and EP '964, and further in view of Oyama?

13. Is Claim 20 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and Wood and EP '964 as applied to Claim 18, and further in view of McColl?

14. Is Claim 22 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and Wood and EP '964 as applied to Claim 19 above, and further in view of Koibuchi?

15. Is Claim 23 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and Wood as applied to Claim 17 above, and further in view of Posselius?

16. Are Claims 24 and 25 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and Wood as applied to Claim 17, and further in view of Noll?

17. Are Claims 26 and 28 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and Wood as applied to Claim 17, and further in view of JP 2002-12172 (JP '172)?

18. Is Claim 27 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and Wood as applied to Claim 17, and further in view of Traechtler?

19. Is Claim 38 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and further in view of Urvoy?

20. Are Claims 39 and 40 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim as applied to Claim 31, and further in view of U.S. Patent 5,747,683 to Gerum?

21. Is Claim 41 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and further in view of U.S. Patent 6,017,101 to Matsuda?

22. Is Claim 42 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and further in view of U.S. Patent 5,747,683 to Gerum and U.S. Patent 5,480,221 to Morita?

23. Is Claim 43 properly rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim as applied to Claim 31 above, and further in view of U.S. Patent 5,005,130 to Breen?

VII. Arguments

Claims 1, 31, 36, and 37 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of U.S. Patent 6,842,683 to Kim

Claims 1, 31, 36, and 37.

The Examiner states that Schlichenmaier discloses a method for controlling a vehicle and trailer, including determining the presence of a trailer and applying brake-steer to the vehicle in response to the trailer to enhance control of the trailer relative to the vehicle. The Examiner argues that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of controlling the vehicle of Schlichenmaier to have included applying brake-steer including applying at least one brake at a first wheel to reduce vehicle turning radius as taught by Kim, in order to provide a means of improving vehicle stability.

Appellant respectfully submits that neither Schlichenmaier, nor Kim, whether taken singly, or in combination with each other, either teach or suggest Appellant's claimed invention. Both Schlichenmaier and Kim are dedicated to the reducing of unwanted yaw, in the form of plowing or in increased understeer while cornering. In other words, Schlichenmaier and Kim teach the use of vehicle brakes to cause a vehicle to achieve the geometric steering which has been dialed in by the vehicle's driver. On the other hand, the claimed invention aims at reducing a steering radius to something less than the geometrically achievable steering radius. Hence, the independent claims in this case all recite applying at least one brake at a first vehicle wheel to reduce a vehicle turning radius. Schlichenmaier teaches use of a trailer sensor to enhance his yaw reduction strategy. Kim teaches the use of brakes to reduce yaw.

Neither Schlichenmaier nor Kim teaches anything regarding the reduction of a turning radius selected by a driver; they teach a treatment for yaw, which is characterized by a departure from the turning radius in excess of what the driver desired. As a result, Claims 1, 31, 36, and 37 are allowable over Schlichenmaier in view of Kim.

Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view Kim in further view of EP-0253964 (EP '964)

Claim 2

Regarding Claim 2, the Examiner states Schlichenmaier does not disclose generation of a reverse direction signal of a vehicle and applying brake-steer in response to a reverse direction signal. *The Examiner turns to EP '964, which is asserted as teaching the generation of a reverse direction signal and applying brake-steer in response to that signal.*

Appellant respectfully submits that the EP reference is devoid of any teaching or suggestion for reducing turning radius of a vehicle in response to the presence of a trailer. As a result, Claim 2 is allowable over the Examiner's rejection.

Claims 3 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and EP '964, and further in view of U.S. Patent 6,112,845 to Oyama

Claims 3 and 5

The Examiner states that Oyama teaches the limitation of a reverse detecting unit generating a reverse detection signal from a shift lever of a transmission controller. Regardless of this, Oyama teaches nothing regarding use of brake-steer to reduce the turning radius of a trailer and vehicle and Claims 3 and 5 are therefore allowable.

Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and EP '964, and further in view of U.S. Patent 4,372,407 to McColl

Claim 4

The Examiner states McColl teaches the limitation of a reverse direction signal generated from a push button. Regardless, McColl teaches nothing regarding the use of a brake-steer system in response to detection of a trailer to reduce the turning radius of the vehicle and trailer. Claim 4 is therefore allowable over the Examiner's rejection.

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and EP '964, and further in view of JP2003-191774 (US 2005/0027402) to Koibuchi

Claim 6

Koibuchi does not teach or suggest use of a vehicle and trailer and therefore teaches nothing regarding a reduction in turning radius of the trailer or vehicle. As a result, Claim 6 is allowable over the Examiner's rejection.

Claims 9, 17, 29, and 30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and further in view of U.S. Patent 5,708,435 to Wood

Claims 9, 17, 29, and 30

The Examiner states that Wood teaches the limitation of applying a trailer brake and a vehicle brake. However, Wood teaches nothing regarding applying a vehicle and trailer brake to reduce the turning radius of the vehicle in response to the presence of a trailer. Therefore, Claims 9, 17, 29, and 30 are allowable over the Examiner's rejection.

Claims 10 and 32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and further in view of U.S. Patent 6,804,597 to Posselius

Claims 10 and 32

The Examiner recites Posselius for the teaching of a hitch sensor for determining the presence of a trailer. Nevertheless, Posselius teaches nothing regarding the application of brake-steer to reduce the turning radius of a vehicle and trailer and Claims 10 and 32 are therefore allowable over the Examiner's rejection.

Claims 11, 12, 33, and 34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and further in view of U.S. Patent 5,455,557 to Noll

Claims 11, 12, 33, and 34

The Examiner has added the Noll reference to Schlichenmaier and Kim. Noll teaches nothing regarding the reduction of the turning radius of a vehicle in response to detecting the presence of trailer. Rather, all Noll teaches is the limitation of an ultrasonic sensor for determining the presence of a trailer. As a result, Claims 11, 12, 33, and 34 are allowable over the Examiner's rejection.

Claims 13, 15 and 35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and further in view of JP 2002-12172 (JP '172)

Claims 13, 15 and 35

The Examiner cites JP '172 as teaching the use of a camera or manually activated mechanism for determining the presence of a trailer. However, JP '172 teaches nothing regarding reducing the turning radius of a trailer and vehicle in response to the presence of a trailer. As a result, Claims 13, 15 and 35 are allowable over the Examiner's rejection.

Claim 14 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and further in view of U.S. Patent 6,804,597 to Traechtler

Claim 14

The Examiner cites Traechtler for the limitation of using an electrical current for determining the presence of a trailer. Nevertheless, Traechtler teaches nothing regarding using brake-steer to reduce the turning radius of a trailer and vehicle in response to the presence of a trailer and Claim 14 is therefore allowable over the Examiner's rejection.

Claim 18 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and U.S. Patent 5,709,435 to Wood, and further in view of EP-0253964 (EP '964)

Claim 18

Essentially, the Examiner repeats the rejection of Claim 2 and, as before, EP '964 teaches nothing regarding the use of brake-steer to control a vehicle so as to reduce the turning radius of a trailer and vehicle in response to the presence of a trailer. Claim 18 is therefore allowable over the Examiner's rejection.

Claims 19 and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and Wood, and EP '964, and further in view of Oyama

Claims 19 and 21

Each of the asserted references has been discussed at length; none discloses anything regarding the use of brake-steer to control a vehicle so as to reduce the turning radius of a trailer and vehicle in response to the presence of a trailer. Claims 19 and 21 are therefore allowable over the Examiner's rejection.

Claim 20 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and Wood and EP '964 as applied to Claim 18, and further in view of McColl

Claim 20

Essentially, the Examiner repeats the rejection of Claim 4. However, McColl does not teach or suggest the use of brake-steer in response to the detection of a trailer, so as to *reduce* the turning radius of a trailer and vehicle and as a result, Claim 20 is allowable over the Examiner's rejection.

Claim 22 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and Wood and EP '964 as applied to Claim 19 above, and further in view of Koibuchi

Claim 22

Regarding Claim 22, the Examiner makes the same rejection as was made regarding Claim 6, and Appellant respectfully repeats its argument regarding Claim 6.

Claim 23 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and Wood as applied to Claim 17 above, and further in view of Posselius

Claim 23

Regarding Claim 23, the Examiner makes the same rejection as was made in connection with Claim 10, and Appellant respectfully reasserts its argument regarding Claim 10.

Claims 24 and 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and Wood as applied to Claim 17, and further in view of Noll

Claims 24 and 25

Regarding Claims 24 and 25, the Examiner makes the same rejection as was made in connection with Claims 11 and 12, and Appellant hereby repeats the arguments previously made in connection with Claims 11 and 12.

Claims 26 and 28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and Wood as applied to Claim 17, and further in view of JP 2002-12172 (JP '172)

Claims 26 and 28

Regarding Claims 26 and 28, the Examiner makes the same rejection as was made in connection with Claims 13 and 15, and Appellant hereby reasserts its previous argument with respect to Claims 13 and 15.

Claim 27 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and Wood as applied to Claim 17, and further in view of Traechtler

Claim 27

Regarding Claim 27, the Examiner makes the same rejection as was made with respect to Claim 14, and Appellant hereby reasserts its response to the rejection of Claim 14.

Claim 38 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and in further view of Urvoy

Claim 38

The Examiner cites Urvoy for the limitation of applying brake-steer in the form of an increased drive torque to a second wheel relative to a first wheel. The Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of controlling the vehicle of Schlichenmaier to have included applying an increased drive torque to a second wheel relative to a first wheel as taught by Urvoy. Appellant respectfully submits that Urvoy teaches nothing regarding use of a controller programmed to apply brake-steer to vehicle and trailer brakes to reduce the turning radius of the vehicle and trailer in response to the presence of the trailer. As noted above in numerous locations in this paper, neither Schlichenmaier nor Kim, teaches or suggests the claimed invention as set forth in Claim 38, and to this list one may add Urvoy, which neither teaches or suggests the invention as described briefly in this paragraph.

Claims 39 and 40 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim as applied to Claim 31, and further in view of U.S. Patent 5,747,683 to Gerum

Claims 39 and 40

The Examiner cites Gerum for the use of a control mechanism including a reverse directional signal from wheel speeds and steering wheel angle signal inputs.

Claims 39 and 40 correspond, respectively, to generating a steering wheel angle signal and a yaw rate sensor signal and applying brake-steer in response to the reverse direction

signal and the steering wheel angle signal or the reverse direction signal and the yaw rate signal. Appellant respectfully submits that the Gerum reference does not teach or suggest applying both vehicle and trailer brakes to reduce the turning radius of a vehicle and trailer. As a result, Claims 39 and 40 are allowable over the proffered rejection.

Claim 41 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and further in view of U.S. Patent 6,017,101 to Matsuda

Claim 41

The Examiner cites Matsuda for the teaching of the use of a control mechanism including a reverse directional signal from wheel speeds and steering torque signal inputs. The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the inputs and the controller of Schlichenmaier to have included a controller based on a directional signal and steering torque as taught by Matsuda. Appellants respectfully submit, however, that the Matsuda reference does not teach or suggest towing of a vehicle and certainly does not reach or suggest using brake-steer for a towed vehicle and a towing vehicle to reduce turning radius. As a result, Claim 41 is allowable over the Examiner's rejection.

Claim 42 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim and further in view of U.S. Patent 5,747,683 to Gerum and U.S. Patent 5,480,221 to Morita

Claim 42

The Examiner cites Morita for a vehicle velocity sensor as input into a braking controller. Appellant respectfully submits, however, that Morita does not teach or suggest the use of a trailer and vehicle combination, and certainly teaches nothing regarding use of brake-steer in order to reduce turning radius of a trailer/vehicle combination. As a result, Claim 42 is allowable over the Examiner's rejection.

Claim 43 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Schlichenmaier in view of Kim as applied to Claim 31 above, and further in view of U.S. Patent 5,005,130 to Breen

Claim 43

The Examiner cites Breen for the use of trailer position as a control parameter. Appellant respectfully submits, however, that Breen teaches nothing regarding the use of brake-

steer for controlling the turning radius of a combined trailer and towing vehicle combination, and as a result, Claim 43 is allowable over the Examiner's rejection.

VIII. Claims Appendix

A copy of each of the claims involved in this appeal, namely Claims 1-6, 9-15 and 17-43 is attached as an Appendix.

IX. Evidence Appendix

None.

X. Related Proceedings Appendix

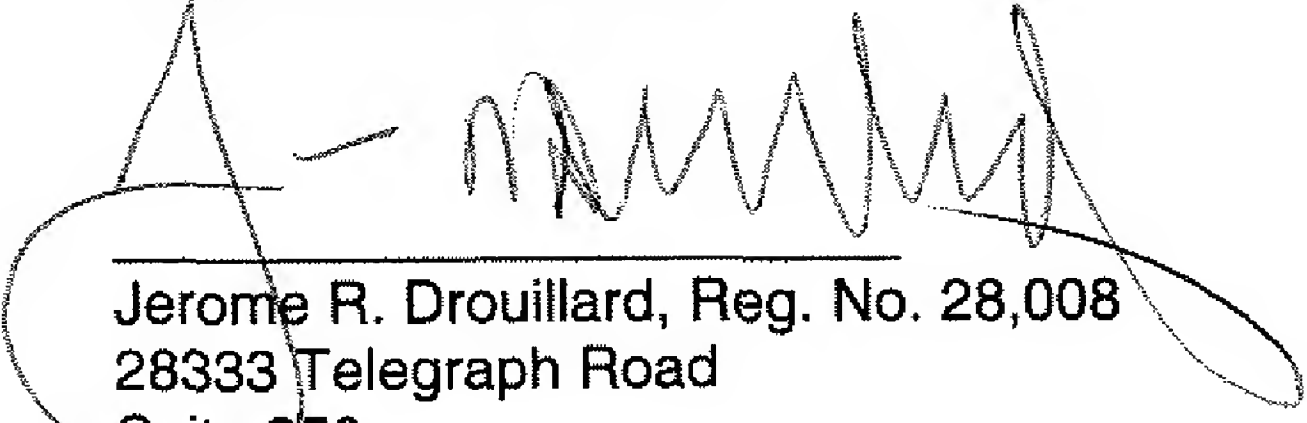
None.

XI. Conclusion

For the foregoing reasons, Appellant respectfully requests that the Board direct the Examiner in charge of this examination to withdraw the rejections.

Please charge any fees required in the filing of this appeal to deposit account 06-1510.

Respectfully submitted,



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CLAIMS APPENDIX

1. A method of controlling an automotive vehicle and a trailer comprising:
determining a presence of the trailer; and
applying brake-steer to the vehicle in response to the trailer by applying at least one brake at a first vehicle wheel to reduce a vehicle turning radius of the vehicle and trailer.
2. A method as recited in claim 1 further comprising *generating a reverse direction signal of the vehicle and applying brake-steer in response to the reverse direction signal.*
3. A method as recited in claim 2 wherein generating the reverse direction signal comprises generating the reverse direction signal from a shift lever.
4. A method as recited in claim 2 wherein generating a reverse direction signal comprises generating the reverse direction from a push button.
5. A method as recited in claim 2 wherein generating a reverse direction signal comprises generating the reverse direction from a transmission controller.
6. A method as recited in claim 2 wherein generating a reverse direction signal comprises generating the reverse direction from a wheel speed sensor relative to a first wheel.
9. A method as recited in claim 1 wherein applying brake-steer comprises applying a trailer brake and a vehicle brake.
10. A method as recited in claim 1 *wherein determining a presence of a trailer comprises determining the presence of a trailer with a hitch sensor.*
11. A method as recited in claim 1 wherein determining a presence of the trailer comprises determining the presence of the trailer with a reverse aid sensor.

12. A method as recited in claim 1 wherein determining a presence of the trailer comprises determining the presence of the trailer with an ultrasonic sensor.

13. A method as recited in claim 1 wherein determining a presence of the trailer comprises determining the presence of the trailer with a camera.

14. A method as recited in claim 1 wherein determining a presence of the trailer comprises determining the presence of the trailer with a harness current.

15. A method as recited in claim 1 wherein determining a presence of the trailer comprises determining the presence of the trailer with a manually activated mechanism.

17. A method of controlling an automotive vehicle and a trailer comprising:
determining a presence of a trailer; and
applying at least one trailer brake and at least one vehicle brake to brake-steer the vehicle and trailer in response to the presence of the trailer to reduce a vehicle turning radius of the vehicle and trailer.

18. A method as recited in claim 17 further comprising generating a reverse direction signal of the vehicle and applying brake-steer in response to the reverse direction signal.

19. A method as recited in claim 18 wherein generating a reverse direction signal comprises generating a reverse direction signal from a shift lever.

20. A method as recited in claim 18 wherein generating a reverse direction signal comprises generating a reverse direction from a push button.

21. A method as recited in claim 18 wherein generating a reverse direction signal comprises generating a reverse direction from a transmission controller.

22. A method as recited in claim 18 wherein generating a reverse direction signal comprises generating a reverse direction from a wheel speed sensor relative to a first wheel.

23. A method as recited in claim 17 wherein determining a presence of a trailer comprises determining the presence of a trailer with a hitch sensor.

24. A method as recited in claim 17 wherein determining a presence of a trailer comprises determining the presence of a trailer with a reverse aid sensor.

25. A method as recited in claim 17 wherein determining a presence of a trailer comprises determining the presence of a trailer with an ultrasonic sensor.

26. A method as recited in claim 17 wherein determining a presence of a trailer comprises determining the presence of a trailer with a camera.

27. A method as recited in claim 17 wherein determining a presence of a trailer comprises determining the presence of a trailer with a harness current.

28. A method as recited in claim 17 wherein determining a presence of a trailer comprises determining the presence of a trailer with a manually activated mechanism.

29. A method as recited in claim 17 further comprising determining a position of the trailer and applying at least one trailer brake and at least one vehicle brake in response to the position.

30. *A method as recited in claim 17 wherein applying brake-steer to the vehicle in response to the trailer to enhance control of the trailer relative to the vehicle comprises applying brake-steer to reduce the turning radius of the vehicle.*

31. A control system for an automotive vehicle and a trailer having a brake comprising:

means to determining the presence of a trailer;

a controller coupled to the means, said controller programmed to apply brake-steer to the vehicle and the trailer brakes to reduce the turning radius of the vehicle and trailer.

32. A system as recited in claim 31 wherein said means to determine the presence of a trailer comprises a hitch sensor.

33. A system as recited in claim 31 wherein said means to determine the presence of a trailer comprises a reverse aid sensor.

34. A system as recited in claim 31 wherein said means to determine the presence of a trailer comprises an ultrasonic sensor.

35. A system as recited in claim 31 wherein said means to determine the presence of a trailer comprises a camera.

36. A system as recited in claim 31 wherein said controller is programmed to apply brake-steer by applying a first brake and a second brake to reduce the turning radius of the vehicle.

37. A system as recited in claim 31 wherein said controller is programmed to apply brake-steer by applying at least one brake at a first wheel to reduce a vehicle turning radius.

38. A system as recited in claim 31 wherein said controller is programmed to brake-steer by applying an increased drive torque to a second wheel relative to the first wheel.

39. A system as recited in claim 31 further comprising a steering wheel angle sensor generating a steering wheel angle signal, said controller programmed to apply brake-steer in response to a reverse direction signal and the steering wheel angle signal.

40. A system as recited in claim 31 further comprising a yaw rate sensor generating a yaw rate signal, said controller programmed to apply brake-steer in response to a reverse direction signal and yaw rate signal.

41. A system as recited in claim 31 further comprising a steering wheel torque sensor generating a steering torque signal, said controller programmed to apply brake-steer in response to a reverse direction signal and steering torque signal.

42. A system as recited in claim 31 further comprising a steering wheel angle sensor generating a steering wheel angle signal and a vehicle velocity sensor generating a vehicle velocity signal, said controller programmed to apply brake-steer in response to a reverse direction signal, steering wheel angle and vehicle velocity signal.

43. A system as recited in claim 31 further comprising means to determine a trailer position, said controller programmed to apply brake-steer in response to the trailer position.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.